

IN THE CLAIMS:

Please amend the claims as follows:

1. (currently amended) A sensor arrangement on a vehicle axle equipped with an air disc brake, comprising:

a wheel speed sensor; and

a sensor exciter, wherein

the sensor exciter is located on a rotor of the air disc brake, ~~adjacent to a junction of a friction portion of the brake rotor and a neck portion of the brake rotor,~~ on an extension of the a neck portion of the brake rotor which extends axially from the a junction of the a friction portion of the brake rotor and the neck portion toward a longitudinal center of the vehicle axle without contact with the friction portion, the neck extension extending toward the longitudinal center to at least a surface of the friction portion of the brake rotor closest to the longitudinal center, and the neck extension is separated by an air gap from at least a portion of the friction portion,

the sensor is disposed adjacent to the exciter, such that the sensor is arranged to detect exciter motion.

2. (canceled)

3. (previously presented) The sensor arrangement of claim 1, wherein the sensor exciter is formed integrally with the brake rotor.
4. (previously presented) The sensor arrangement of claim 1, wherein the sensor exciter is formed as a ring and is attached to the rotor.
5. (canceled)
6. (previously presented) The sensor arrangement of claim 1, wherein the sensor exciter is formed integrally with the neck portion extension.
7. (previously presented) The sensor arrangement of claim 1, wherein the sensor exciter is formed as a ring and is attached to the neck portion extension.
8. (original) The sensor arrangement of claim 1, wherein the sensor is located closer to a longitudinal center of the vehicle axle than a neck portion of the brake rotor.
- 9-10. (canceled)

11. (original) The sensor arrangement of claim 1, wherein  
the sensor is located on an bracket which attaches a caliper of the air disc  
brake to the vehicle axle.

12. (canceled)

13. (original) The sensor arrangement of claim 1, wherein  
the wheel speed sensor is a component of an anti-lock braking system.

14. (currently amended) A vehicle axle assembly with an air disc brake and  
a sensor arrangement, comprising:

a vehicle axle;

an air disk brake located adjacent to a hub end of the vehicle axle;

a wheel speed sensor; and

a sensor exciter, wherein

the sensor exciter is located on a rotor of the air disc brake, ~~adjacent to~~  
~~a junction of a friction portion of the brake rotor and a neck portion of the brake~~  
~~rotor,~~ on an extension of ~~the~~ a neck portion of the brake rotor which extends axially  
from ~~the~~ a junction of the a friction portion of the brake rotor and the neck portion  
toward a longitudinal center of the vehicle axle without contact with the friction  
portion, the neck extension extending toward the longitudinal center to at least a

surface of the friction portion of the brake rotor closest to the longitudinal center,  
and the neck extension is separated by an air gap from at least a portion of the  
friction portion,

the sensor is disposed on the vehicle axle adjacent to the exciter, such  
that the sensor is arranged to detect exciter motion.

15. (canceled)

16. (previously presented) The vehicle axle assembly of claim 14, wherein  
the sensor exciter is formed integrally with the brake rotor.

17. (previously presented) The anti- vehicle axle assembly of claim 14,  
wherein

the sensor exciter is formed as a ring and is attached to the rotor.

18. (canceled)

19. (currently amended) A sensor exciter for use with a vehicle axle  
equipped with an air disc brake, comprising:

a sensor exciter configured to generate an electrical signal in a wheel speed  
sensor affixed to the vehicle axle,

wherein the sensor exciter is adapted to be located on a rotor of the air disc brake in a position adjacent to the wheel speed sensor and adjacent to a junction of a friction portion of the brake rotor and a neck portion of the brake rotor, on an extension of the a neck portion of the brake rotor which extends axially from the a the junction of the a friction portion and the neck portion toward a longitudinal center of the vehicle axle without contact with the friction portion, the neck extension extending toward the longitudinal center to at least a surface of the friction portion of the brake rotor closest to the longitudinal center, and the neck extension is separated by an air gap the vehicle axle and is separated by an air gap from at least a portion of the friction portion.

20. (canceled)

21. (previously presented) The sensor exciter of claim 19, wherein the sensor exciter is formed integrally with the brake rotor.

22. (previously presented) The sensor exciter of claim 19, wherein the sensor exciter is formed as a ring and is attached to the rotor.

23. (canceled)

24. (currently amended) A brake rotor, comprising:  
a brake disc including a friction portion and a neck portion,  
wherein a sensor exciter configured to generate an electrical signal in a wheel speed sensor is located on the brake disc ~~in a position adjacent to a junction of a friction portion of the brake rotor and a neck portion of the brake rotor,~~ on an extension of ~~the~~ a neck portion of the brake rotor which extends axially from ~~the~~ a junction of ~~the~~ a friction portion and the neck portion toward a longitudinal center of the vehicle axle without contact with the friction portion, the neck extension extending toward the longitudinal center to at least a surface of the friction portion of the brake rotor closest to the longitudinal center, and the neck extension is separated by an air gap from at least a portion of the friction portion.

25. (original) The brake rotor of claim 24, wherein  
the sensor exciter is formed integrally with the brake rotor.

26. (original) The brake rotor of claim 25, wherein  
the sensor exciter is formed as a ring and is attached to the rotor.

27. (canceled)

28. (currently amended) A sensor mounting arrangement for use on a vehicle axle equipped with an air disc brake, comprising:

a wheel speed sensor; and

a torque plate for fixing a caliper of the air disc brake to the vehicle axle,

wherein

the sensor is held by the torque plate between a brake caliper mounting portion of the torque plate and a vehicle axle attachment portion of the torque plate, and

a sensor exciter-detecting portion of the sensor is located at a position corresponding to a location of a sensor exciter arranged ~~on a brake rotor of the air disc brake in a position adjacent to a junction of a friction portion of the brake rotor and a neck portion of the brake rotor~~ and on an extension of the a neck portion of the brake rotor which extends axially from the a junction of the a friction portion and the neck portion toward a longitudinal center of the vehicle axle without contact with the friction portion, the neck extension extending toward the longitudinal center to at least a surface of the friction portion of the brake rotor closest to the longitudinal center, and the neck extension is separated by an air gap from at least a portion of the friction portion when the brake rotor is straddled by the brake caliper.

29. (withdrawn) A sensor arrangement on a vehicle axle equipped with an air disc brake, comprising:

a wheel speed sensor;

a sensor exciter; and

an axle hub adapted to be rotatably supported on an outer end of the vehicle axle, wherein

the sensor is disposed on the vehicle axle at a location axially inboard of a rotor of the air disc brake,

the sensor exciter is located on an inwardly-extending portion of the rotating axle hub which extends towards a longitudinal center of the vehicle axle a distance sufficient to locate the sensor exciter within a range in which the sensor can detect exciter motion.

30. (withdrawn) The sensor arrangement of claim 29, wherein

the sensor exciter is formed integrally with the inwardly-extending portion of the rotating axle hub.

31. (withdrawn) The sensor arrangement of claim 29, wherein

the sensor exciter is formed as a ring and is attached to the inwardly-extending portion of the rotating axle hub.



32. (withdrawn) The sensor arrangement of claim 29, wherein  
the sensor is located on an bracket which attaches a caliper of the air disc  
brake to the vehicle axle.

33. (withdrawn) The sensor arrangement of claim 29, wherein  
the wheel speed sensor is a component of an anti-lock braking system.

34. (withdrawn) A vehicle axle assembly with an air disc brake and a sensor  
arrangement, comprising:

a vehicle axle;

an air disk brake located adjacent to a hub end of the vehicle axle;

a wheel speed sensor;

a sensor exciter; and

an axle hub adapted to be rotatably supported on an outer end of the vehicle  
axle, wherein

the sensor is disposed on the vehicle axle at a location axially inboard  
of a rotor of the air disc brake,

the sensor exciter is located on an inwardly-extending portion of the  
rotating axle hub which extends towards a longitudinal center of the vehicle axle a  
distance sufficient to locate the sensor exciter within a range in which the sensor  
can detect exciter motion.

35. (withdrawn) The vehicle axle assembly of claim 34, wherein  
the sensor exciter is formed integrally with the inwardly-extending portion of  
the rotating axle hub.

36. (withdrawn) The anti- vehicle axle assembly of claim 34, wherein  
the sensor exciter is formed as a ring and is attached to the inwardly-  
extending portion of the rotating axle hub.

37. (withdrawn) A sensor exciter for use with a vehicle axle equipped with  
an air disc brake, comprising:

a sensor exciter configured to generate an electrical signal in a wheel speed  
sensor affixed to the vehicle axle,

wherein the sensor exciter is adapted to be located on an inwardly-extending  
portion of a rotating axle hub in a position adjacent to the wheel speed sensor.

38. (withdrawn) The sensor exciter of claim 37, wherein  
the sensor exciter is formed integrally with the inwardly-extending portion of  
the rotating axle hub.

39. (withdrawn) The sensor exciter of claim 37, wherein

the sensor exciter is formed as a ring and is attached to the inwardly  
extending portion of the rotating axle hub.